



MONTANA AERONAUTICS COMMISSION



Volume 15, No. 4

May, 1964

MAMA Elects New Officers

At its annual meeting in Great Falls, April 20, the Montana Airport Manager's Association elected Ken Rolle, Airport Manager at Billings, President; Ed Swetish, Airport Manager, Dillon, Vice President; and re-elected Ed Granger, MAC Airport Engineer, Secretary-Treasurer for the coming year. Don Hellinger, Shelby and Hugh Kelleher, Helena, were appointed Directors. Approximately 40 managers, operators and general contractors attended the morning and afternoon sessions held on the International Airport.

The program included Norm Baumgart, representative of the Portland Cement Company, who spoke on soil cement. James Benton, Helena, representative of Asphalt Institute led a panel discussion on slurry seal. Members of his panel were A. W. McIntyre, Great Falls and Robert Tindall, Lewistown. Homer Holman, Skyways Flying Service of Great Falls, gave a talk on fixed base, operator leases. F. K. Steel, electrical engineer discussed airport lighting, followed by the group taking a tour of the airport and inspection of International's lighting system. Keith Watkins, Helena, FAA representative, discussed how to obtain surplus government property. James Monger, Assistant Director for the Montana Aeronautics Commission, explained

the Commission's airport loan program.

A banquet held at Victor's on the Airport, concluded the one-day meeting. It was the general consensus that the meeting was undoubtedly one of the most successful MAMA has held to date and that a great deal of information was obtained by all those attending.

OBSERVATIONS OF AN OLDSTER

by Stanley M. Doyle

Associate Justice

Supreme Court of Montana

Each month you receive, without cost to you, a twelve page slick paper bulletin issued by the Montana Aeronautics Commission. In context it is non-partisan, informative and has as a sole motive, "Your Safety," as a pilot. All too frequently, the printed words of this document are ignored. When this transgression happens, you are quite liable to read in the newspapers of the next day the obituary notice of one of your pilot friends.

In World War I, Army statistics disclose that 88 per cent of our commissioned flying officers were killed. Just a small percentage of this astronomical casualty list were killed in action, the greater portion of the number were victims of these words,

indifference and over-confidence.

It is a valid premise that the "crates" of 1917-18 had a negligible safety factor. We had no parachutes, and erratic engines, air frames and instruments were less than perfect. It should be noted the latter achieved fame by their scarcity and continual malfunction. We knew how to go into a tail spin and how to recover, assuming we had sufficient altitude, but the basic answer of "why" was a secret. If anyone knew why a plane would spin, it was classified and not revealed to the pilot. We also believed that any crash you could walk away from was a "good" crash!

The Director of Military Aeronautics issued more directives on the wearing of spurs on our boots, than on any rule of safety in flight. The Jennies, Spads, Camels and De Havellands, etc., had neither a bridle nor martingale. Consequently, spurs seemed redundant and non-essential to us.

Our air speed ranged from 90 M. P. H. to 150. Today, forty-seven years later, we can and do attain speeds in excess of Mach-2, which establishes the fact that planes have improved in speed, performance and reliability, but we still have pilots who blithely ignore the accumulated

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of the
**MONTANA AERONAUTICS
COMMISSION**

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Helena, Montana

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DIRECTOR'S COLUMN



FLIGHT INSTRUCTOR RATINGS AND STUDENT PILOT ACTIVITIES

We are in receipt of the notice of proposed rule making affecting 14 CFR parts 1 and 61. We feel the following information is of vital importance to the entire industry both from the operators point of view and the private pilots point of view.

The proposal has been registered as Docket No. 4081, Notice No. 64-18 and entered in the Federal Register on April 2, 1964.

Some aspects of the proposal are very interesting, most items of the proposal are for the general good of the industry and it is felt that at times like these if you have a deep and sincere feeling regarding the proposal, that these opinions should be made known. Among the numerous items in both part 1 and 61 under consideration by the Federal Aviation Agency at this time, are the following:

Revise the practical test for a flight instructor certificate or rating to place more emphasis on the applicant's ability to give flight instruction, rather than the applicant's ability to fly. The flight instructor is primarily a teacher when he is giving instruction, and he must demonstrate his ability to teach before he is certi-

ficated by the Administrator as a flight instructor.

Require a certificated flight instructor to keep comprehensive records of flight instruction given, recommendations for testing, and certain logbook endorsements.

Require that flight instructor certificates be renewed every 24 months. If a certificate expires, and has not been renewed, the flight instructor may not continue to exercise the privileges of that certificate. This proposal is not the same as present 61.177 (c) which requires that a flight instructor must have given 10 hours of flight instruction within the last 12 months, or show continued proficiency to the Administrator. The Agency proposes to delete present 61.177 (c) and base renewal, or issue of a certificate to the holder of an expired certificate, on a satisfactory demonstration to the Administrator of the applicant's ability to give flight instruction. However, the Administrator may waive the demonstration if he finds the applicant's record on flight instruction warrants it and that the certificate has not expired.

Proper flight instruction can only be given by instructors who are familiar with current flight training standards and procedures. The requirements of proposed 61.177 guarantee the Agency, the student, and the public that certificated flight instructors are familiar with these standards and procedures.

Provide that a student pilot may not pilot an airplane or rotorcraft in solo flight unless, within the preceding 90 days, he has received flight instruction in that category of aircraft and has been certified by a certificated flight instructor as competent to solo that category of aircraft.

Under the present regulations, a proficiency flight check by a certificated flight instructor is required of a student pilot only when he has not piloted a powered aircraft within the preceding 90 days. Consequently, if he makes at least one flight every 90 days in any powered aircraft he may operate without contact with a flight instructor for as long as four years since endorsements on a student pilot certificate are transferred (one time only) to a new certificate.

Extended periods of operation of this character without a flight instructor's guidance are not conducive

to safety nor to the development of good operating practices and procedures by the student pilot. The proposal will also require that the instruction must be in the category of aircraft in which the student is to act as pilot in command, since "powered aircraft" refers to both airplanes and rotorcraft.

Require a student pilot to secure an authorization from a certificated flight instructor for each solo cross-country flight, except that under certain prescribed conditions repeated flights over a specified course of not more than 50 miles need not be authorized each time. Records show that many accidents in which student pilots are involved are directly attributable to either attempting flights under poor weather conditions, or attempting flight into or out of unsuitable landing areas. The advice of a flight instructor probably would have prevented many of these accidents. In requiring the student pilot to seek an instructor's guidance before starting each cross-country flight, an opportunity would be provided for developing the student's flying knowledge and judgment, which would also be valuable for his later flying operation.

Your Montana Aeronautics Commission is sincerely interested in being of the utmost value to the aviation public in Montana at all times. It is requested that in the event you write either the Federal Aviation Agency or this Commission, that we receive copies of your correspondence on those items directed immediately to the FAA. All comments and communications should identify the regulatory docket and notice numbers and be submitted in duplicate to the Federal Aviation Agency Office of the General Counsel, Attention Rules Docket 800, Independence Avenue S. W., Washington, D. C. 20553, on or before June 15, 1964.

FOR SALE: Piper PA-18 150-123 hours. Total time since new, fresh periodic day of purchase. Just like new, not a scratch, full panel, Mark V radio with Omni head, eight-day clock, rotating beacon, outside air temp, landing lights, Scott pneumatic, 8" tail wheel assembly new. Everything on—you can put on! Never used as sprayer. Always operated from black top. Price \$8,000. Contact: Miles City Aero Service, Inc., Box 656, Miles City, or Phone 232-1354.

WANTED: For immediate occupancy! Fixed base operator wanted: 150' x 160' Storage Hangar, 60' x 50' Shop, office space available in Administration Building. Second housing available on airport. Call or write Cut Bank Airport Commission, Cut Bank, Montana or Phone 938-2537 or 938-2039 after 6 P.M.

(Continued from Page 1)

knowledge of nearly a half century of flying.

The preceding paragraph motivates this article. If weather conditions are border line or bad, stay on the ground and live. If you hear or sense any mechanical or instrument difficulty, do a 180° turn, which will enable you to greet your friends in some place other than a hospital or mortuary.

True, the monthly bulletin of the Montana Aeronautics Commission couches their publication in language not as brutal as this article, but its message is fundamentally the same.

Become **now** a believer in air safety and enjoy the company of your grandchildren.

As a conclusion, contemplate this verse as applicable to military pilots in time of war, but not germane to peace-time Montana pilots.

SONG FOR A PILOT

Who plows the sky, said a wise man,
Shows himself a fool;
But he went out to plow it—
Taught in a different school.
Who sows the wind, says Scripture,
Must reap and reap again;
But he went out to sow the wind—
And reaped the bitter grain.
He took his death like Charity,
Like nothing understood;
He freshened all the oldest words—
With all his blood.

By: Captain Richard G. Hubler

COCKPIT CLUTTER

It has been observed that many general aviation aircraft have, unintentionally, become "cargo" carriers. The nature of this "cargo" is interesting—airways and instrument manuals stacked under and between the seats, a stack of sectional charts on the floor in front of the pilot's seat, one or two thermos bottles lying on the seat or floor, a box of sales literature wedged between the seat, loose pliers and screwdriver, fire extinguisher, oxygen equipment, flashlight, and a wide variety of other items. This material could be the cause of accidents or near accidents. There is one report of loose tie-downs nearly going all the way through the side of a fabric-covered aircraft in turbulence. It is suggested that aircraft owners give their aircraft a good "internal housecleaning" before the next flight; remove those things which do not belong in the aircraft.

AIRPORT NOTES



By James H. Monger
Assistant Director, Airports

SEEDING GRASS RUNWAYS

It seems that establishing a truly successful airstrip turf has always been a major problem. Often it has been necessary to reseed spotted areas annually before a satisfactory turf is established. Consequently, each year something slightly different is tried in order to come up with a standard seeding procedure for a given soil condition, rainfall area and location.

The following recommendations were arrived at after considerable research and so far are proving to be our most successful method:

If land leveling and excavation is not too extensive, then do not disturb the top soil to the point where it is necessary to add a large amount of fertilizer. Some grass plant roots will remain and reappear in the surface even after the ground has been cut away. After leveling and the base has been rolled and soft spots taken care of, then prepare the seed bed, which can be done in the normal manner that a field is prepared for the drilling of wheat. When the seed bed is prepared, apply the fertilizer with a standard applicator to a depth of 4 inches. We suggest that approximately 80 pounds of phosphate per acre and 30 pounds of nitrogen per acre be used for an average Montana location. The main difficulty in establishing a turf airstrip is in getting the initial seeding to germinate and sprout into small grass plants.

In order to insure good germination, we suggest that you seed a nurse crop to merely hold the soil and seedlings in place. This nurse crop could be ordinary wheat planted with a farm drill in the usual manner but seeding it extremely sparsely. We recommend that a brush harrow or chain be pulled behind the drill.

When the wheat has been seeded,

broadcast the grass seed onto the surface. Drilling grass seed is not always satisfactory because of the shallow depth involved and the unevenness of the different seed types causes the drill to feed them into the ground in an uneven pattern unless a regular grass drill is available. Broadcast seeding should be done on a very calm day, immediately before the rainy season, prior to June 15 or in the fall. The grass seed that we recommend is approximately 8 pounds of Russian Wild Rye Grass per acre mixed with 6 pounds of Kentucky Blue Grass per acre. After this has been applied, give it a harrowing with a light weight harrow device that will merely tend to cover the seeds over. You should then roll the entire airstrip with a rubber-tire roller, a Cultipacker, or even a steel-wheel roller.

After the seeding, controlled irrigation from a sprinkling system or water truck is ideal. Some rolling may be desirable throughout the watering. Without proper moisture and compaction an aircraft's prop blast could blow a great deal of the seed away. At this early stage in development, the flood irrigation method is touchy as any erosion could ruin the entire job.

We have seen the Russian Wild Rye Grass on a few strips around the state lately and they seem to be proving out very well. This grass seed is very new in the field of airport turfing. It appears that it is going to take over completely and replace the Crested Wheat grasses as there will not be nearly as much bunching of the Russian Wild Rye as in Crested Wheat, the plant is more leafy and will reseed more readily. Once the Kentucky Blue Grass is established, it should be watched rather carefully year after year and any dead areas reseeded. Although it is not as hardy as the Rye, its overall coverage as a blanket turf is superior. Rye grass and wheat grasses are used mostly for the dry regions. The germination time on the Rye Grass and the Blue Grass is less than three weeks and the percentage of germination should be obvious by the time the June rains have ended.

Most Montana grain elevators and seed houses can order your grass seeds and have them available in a week or less.

Remember, after your turf runway is established it will need constant

care and maintenance. Control the rodents; fill in the holes; blade off the humps, and roll with the right moisture conditions. The most ideal time for this care is in the spring. Periodic rolling after rains will eliminate some mowing. Don't be afraid to blade off the old clumps of crested wheat to smooth up the runway, but when you do, place some new seed in the bare areas so you will have an even grass mat next year.



May 8 and 9: Great Falls—Flying Farmers will meet! Queen Coronation will be held at the O'Haire Manor the evening of May 8. The present Queen, Scotty Jones, will crown the new Queen, Mrs. Henry Wood of Gildford. Mary Jo Janey, Supervisor of Aviation Education for the Montana Aeronautics Commission will be guest speaker. Registration will be held in the Terminal Building at the International Airport.

May 13: Helena—Commission Meeting.

May 14, 15 and 16: Bozeman—National Intercollegiate Flying Association Meet. Let's have a "big" turnout and watch these young people fly!!!

May 15: Missoula—Air Fair—Staged by the Missoula Junior Chamber of Commerce and the Northwest Sport Parachute Club. (See article)

May 24-27: Detroit, Michigan—American Association of Airport Executives.

June 5 and 6: Minneapolis, Minnesota—Centennial Fly-In. Have you answered your questionnaire? (See article)

June 14: Lewistown—Willy Rimby's Skycraft will hold an Aircraft Auction. The auction will be conducted by Frank Bass, Montana's Flying Auctioneer and will be held at the Lewistown Municipal Airport.

June 15-26: Dillon—Western Montana College of Education Ground Instructors Course.

June 16-July 17: Missoula—Montana State University. Teachers Aero-Space Education Workshop.

June 16-July 17: Bozeman—Montana

State College. Teachers Aero-Space Education Workshop.

June 19, 20 and 21: Columbus—Centennial Celebration and Fly-In. (See article)

June 25, 26 and 27: Washington, D.C.—National Aero-Space Education Conference.

June 29-July 17: Dillon—Western Montana College of Education. Teachers Aero-Space Education Workshop.

July 11 and 12: Glacier National Park—INAC Summer Board Meeting, Many Glacier Hotel.

July 26: Bozeman—General Fly-In and Antique Aircraft Fly-In. Sponsored by the Optimist Club of Bozeman. Mark your calendar now!! A real family day. Al Newby will present his acrobatic air show in Nelson Story's Great Lakes Trainer and parachute jumps will be made by members of the MSC Sky Divers. (Watch your Newsletter for further details.)

August 1 and 2: Cascade Reservoir Airstrip—20 miles south of McCall, Idaho. 4 State Fly-In—Idaho, Oregon, Washington, and Montana Flyers! Barbecue Saturday evening, Dancing, camp out. Transportation available for those wishing to stay in town. Sunday breakfast will be donated by the Idaho State Pilots and a salmon barbecue at noon by Washington State Pilots. Ski Boats for water skiing, gas available on field and an A & E mechanic; swim area for children. Prizes will be awarded. One day fishing licenses and transportation to nearest trout stream arranged for. This event should definitely be on your calendar for a Family Aviation weekend! (Note: Location change as this event was listed in the newsletter for Moose Creek Dude Ranch). Watch for further details!!

September 5 and 6: Spokane, Washington—Northwest Aviation Seminar. Arrangements have been made for several nationally prominent aviation people to appear and a top-notch program is expected. Bob Cummings, Hollywood personality of screen and television, well known in aviation circles coast to coast, will be the guest speaker at the dinner on September 5. (Watch for further details!!)

September 24, 25 and 26: Helena—INAC Annual Convention.

October 12, 13 and 14: Rapid City,

South Dakota—NASAO National meeting.

October 19, 20 and 21: Norman, Oklahoma—National Airports Conference to be held at the University of Oklahoma. It is jointly sponsored by the University and the American Association of Airport Executives.

FAA COUNTS SHOW 1963 YEAR OF RECORD AIR ACTIVITY

Airport traffic control towers operated by the Federal Aviation Agency at 277 airports reported a record 31 million takeoffs and landings during 1963.

The number almost doubles the 16.8 million operations reported by 179 FAA towers ten years ago, and is a ten per cent gain over the 28.2 million operations reported by 270 FAA towers in 1962.

General aviation flying showed a 15 per cent increase over 1962, totaling 19.9 million operations or 64 per cent of the total traffic. General aviation pilots made five of every eight landings and takeoffs at FAA operated towers in 1963.

FAA's 336 Flight Service Stations and 68 combined Station/Towers contacted 7.4 million aircraft in 1963, two per cent more than the 7.3 million recorded in 1962. Most of this traffic, or 88 per cent, were flying under Visual Flight Rules (VFR).

Following are the rank order listings of Montana Airports in terms of operational categories.

Total Aircraft Operation: 1963

Billings	147 with 93854
Great Falls	153 with 91023
Missoula	240 with 43968
Helena	261 with 31081

Itinerant Aircraft Operations: 1963

Billings	136 with 62593
Great Falls	149 with 55865
Missoula	245 with 27998
Helena	262 with 21711

Air Carrier Operations: 1963

Billings	114 with 16567
Great Falls	135 with 14079
Missoula	218 with 4918
Helena	231 with 3066

General Aviation Itinerant Operations: 1963

Billings	101 with 45040
Great Falls	138 with 34274
Missoula	205 with 22629
Helena	243 with 16604

FOR SALE: Cessna 170—1948—385 since MOH—VHF omni. Price \$3,000. Contact: Jack Rummel, 1170 Forestvale Lane, Helena, Montana.



One point of conservation practices was this excellent example of contour stripping and shelter belts in southern Sheridan County. Lakes in the background are examples of drainage patterns in the area around Medicine Lake. (Photos by Basil Ashcraft, Department of Public Instruction).

VO-AG STUDENTS ENJOY OBSERVATION FLIGHTS

Plentywood vocational agricultural students recently got a brand new look at agriculture. A group of 24 high school students were given 1½ hour flights, preceded by a discussion period, to acquaint them with the varied conservation practices being carried out in the Plentywood area.

Dave Melin, local vo-ag instructor stated that the project is also designed to bring about an awareness of the potential use of aircraft in the agricultural field. Melin was assisted by Don Anderson, Soil Conservation field man for Sheridan County.

The Montana Aeronautics Commission is co-sponsoring the vo-ag projects with technical arrangements being completed by Mary Jo Janey, Aviation Education Supervisor for the MAC and Max Amberson, Agricultural Education Supervisor for the Department of Public Instruction.

Pilots for the 4 Cessna aircraft used were Jack Wilson, Safety and Education Officer for MAC; Al Hardy, Plentywood Flight Operator; Arnold Fredricksen of Modern Aire Flight Service at Culbertson, and Les Hjelm of Plentywood.

The Plentywood Vo-Ag program

had the approval of the local school authorities and parental permission was obtained for all students taking the flight.

Flying classrooms have also been planned for Lewistown and Kalispell.



Lt. to rt. Jack Wilson, Don Anderson, Mary Jo Janey and David Melin are shown examining a detail map of Sheridan County prior to the Flying Classroom field trip.

1937, May 20-July 3 — Amelia Earhart Putnam and Fred Noonan, making their second attempt at a leisurely round-the-world flight, disappear somewhere between New Guinea and Howland Island in the mid-Pacific, on the homeward flight. No trace is found of them despite repeated search.

MISSOULA AIR FAIR

The Missoula Junior Chamber of Commerce and the Northwest Sport Parachute Club are co-sponsoring an Air Fair that will have events of interest for all ages. Among the highlights will be spectacular sport parachute competition with entrants from 9 states and Canada. There will be Junior accuracy events—persons having made up to 40 jumps and Senior accuracy events—persons having made over 40 jumps. One main competition event will be the Baton Pass for three-man teams—the passing of a baton while in free fall, then after the parachutes open hitting a ground target.

Trophies, money and merchandise prizes will be awarded. The three women achieving the best scores will receive special prizes, however, men and women will be in direct competition.

A Fly-Over of planes beginning with the most ancient vintage and progressing to the most modern will be staged. Trophies will be awarded to the most ancient which is still flying, the most modern and the most unusual.

The Forest Service at the Aerial Fire Depot will show fire fighting equipment, aerial supply and delivery equipment and will have open house at its Visitors Center.

Aircraft manufacturers and distributors are expected to display aircraft; the Armed Forces will have equipment displays and information booths; and model-plane builders and fliers will have entries.

This is a "Fair"—certainly, another Family Aviation Event!!

Columbus Centennial Celebration and Fly-In

June 20 and 21, 1964

SCHEDULE OF EVENTS

Saturday, June 20

Parade, downtown, 10:00 a.m.

Barbecue, free, 11:00 a.m.

Rodeo, county fairgrounds, 2:00 p.m.

Street dance, downtown, 8:30 p.m.

Sunday, June 21

Canoe race on the Yellowstone.

Model T race, (Columbus to Mout Mine and return).

Outdoor church service.

Oldtime picnic.

Columbus assures everyone of a Real Good Time!!

See you there!!!!

STAN CAVILL, WESTERN AIRLINES CHIEF PILOT 'PLANS MONTANA RETIREMENT'

On March 9, Stanley J. Cavill, Western's chief pilot, eased a big 720B fanjet onto the runway at Los Angeles International Airport. It was Flight 63 from Minneapolis/St. Paul—Stan's last passenger flight for the company after 31 years of service.

Later in the same week, at the controls of a friend's American Eagle biplane, with an OX-5 engine, Stan was reminded of when he first soloed in just this type of airplane in Miles City, Montana in 1927. Now, 25,000 flying hours later, he was about to leave the airline profession.

"To participate in and watch the tremendous growth of Western — especially during the last five or six years — has been the most gratifying thing to me since I joined the company," he said.

"I remember the airline business when we didn't know when we'd get our next paycheck. The difference between flying today and the barnstorming days of 30 years ago is almost unbelievable.

"In January 1928, Herb Holloway, later an airline flight test engineer, Herman Henrickson, now a retired oil distributor in Billings, and I bought a Waco 10 aircraft in Harlowton, Montana. We formed our own airline called H. H. & C. Airways, Inc.

"We operated charter flights and barnstormed around the countryside. We'd sell 15-minute rides for \$5.00 a head, and we were doing OK until we lost the plane the following spring when the hangar burned down.

"I particularly remember one interesting incident on a flight from Harlowton to Belt, Montana. Holloway and I were in the Waco when the engine began slowing down. Water from the radiator had leaked over the carburetor causing the float needle valve to freeze up. When we advanced the throttle, the engine would almost quit. But by closing the throttle almost to idle, the plane would still fly.

"To fix it, I had to climb out on the wing, lay down across the wire struts, reach into the engine and loosen the needle valve by hand. This worked fine except that gaso-

line leaked out onto my clothes while I was reaching across the exhaust stacks. I caught fire. Herb pulled the plane down in a hurry in a snow covered field, I jumped into the snow to put out the fire. We were afraid the plane was going to burn up."

But Stan was far from discouraged with flying. To replace the Waco, he bought an OX-5 Travelaire and operated his own flying business out of Harlowton. Then followed several years of barnstorming and teaching students how to fly.

In the spring of 1933, he joined National Parks Airways as a reserve pilot, while still running his own flying service. He became a full-time pilot for NPA two years later and sold his business.

He flew copilot on the Boeing 247D aircraft. In 1937 he became a captain. The following year, he joined the Air Corps Reserves and was commissioned a second lieutenant in 1938 and was called to active duty in 1942. Later, he was sent to Europe and participated in the planning of the invasion. He was discharged in 1945 with the rank of lieutenant colonel.

He returned to NPA, which had become part of Western in 1937, and he was made company chief pilot in 1956.

But Stan is far from hanging up his goggles. He has purchased a new Cessna 182, which he and his wife Alice will fly to Montana where they plan to spend their retirement.

"We're going to do like the birds," the veteran pilot said, "going north in summer and south in the winter. I never took a day's sick leave in 31 years and I can't see sitting still now. I want to do some skiing and fishing. We haven't decided exactly where we're going to settle yet, but it will probably be near Flathead Lake, north of Missoula."

(Excerpts from Flight Times
Western Air Lines, Inc.)

Small boy, talking to his mongrel dog: "Stay in your own back yard, mom say, stay in your own back yard! You'd think this was East Berlin!"

MINNEAPOLIS CENTENNIAL FLY-IN

June 5-7, 1964

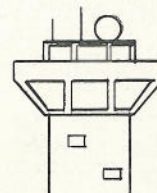
All of Minneapolis is making great plans to show Montanans the finest possible time. Let's have an armada of planes descend on the Twin Cities from the Big Sky Country!

A large block of box seats have been set aside between the 1st and 3rd base lines by the Minnesota Twins. (Remember—the price is only \$6.00 for the two ball games and \$4.00 for the transportation). Ceremonies have been arranged honoring our delegation and our Centennial in addition to a luncheon provided by the Minneapolis Chamber of Commerce, the Games, Saturday night in the city and numerous other "treats." This certainly should be a "Once in a Lifetime" event and let's all make a real effort to attend!!!

Note: After reviewing the post card return we would appreciate if all pilots would complete the form on the bulletin which was sent to all Montana registered pilots recently.

Operators—Be Sure To Read

"Let's Build General Aviation Up Again" in the April issue of Flight Magazine. This is an excellent article by Leslie L. Thomason. With the aid of graphs and a few statistics, Mr. Thomason points out some very important facts of particular interest to all Flight Operators. His closing statement "We can then transform the next decade into the most fabulous future the field of flying has ever known"—denotes Mr. Thomason's sincere and optimistic interest in the industry.



TOWER

OPERATIONS

MONTANA TOWER-CONTROLLED AIRPORT OPERATIONS

MARCH, 1964

	Total Operations	Instrument Operations
Great Falls	9156	832
Billings	6033	779
Missoula	3964	257
Helena	2187	173

AIRPORTS AVAILABLE TO NEW YORK WORLD'S FAIR FLYING VISITORS

The New York World's Fair opened on April 22, 1964. To assist those visitors who plan to use air transportation the FAA Eastern Region conducted a survey of airport operators to determine the facilities and services which will be available for accommodating operators and passengers of general aviation aircraft.

The following airports encourage general aviation aircraft during the World's Fair:

Red Bank Airport, Red Bank
Teterboro Airport, Teterboro
Zahns Airport, Amityville, N. Y.
Deer Park Airport, Deer Park
Flushing Airport, N. Y.
Westchester County Airport, White Plains
Newark Airport, Newark (a minimum number)

OTHERS:

Republic Airport, Farmingdale
This airport is closed to general public and does not plan to accommodate any World's Fair traffic.

John F. Kennedy International Airport

This airport does not wish to encourage any general aviation World's Fair traffic.

Laguardia Airport, New York

This airport does not propose to encourage or discourage general aviation World's Fair traffic.

THUNDERSTORMS AND MOUNTAIN SLOPES

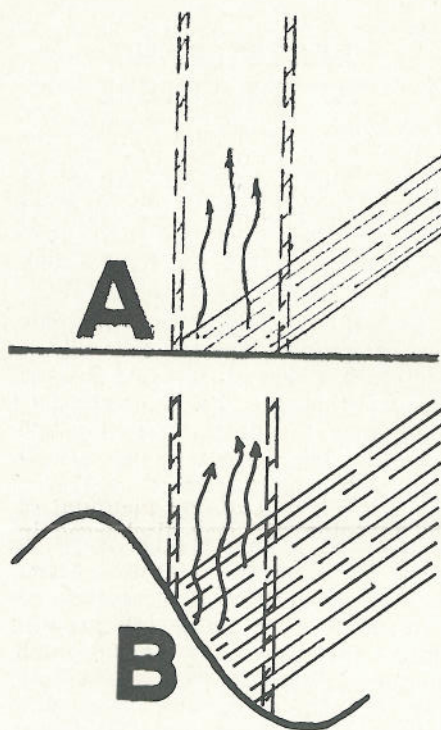
Arthur Rozett, Jr.
FAWS-Forecaster
Great Falls, Montana

Sooner or later every pilot flying Montana's weather will ask himself why thunderstorms favor certain times of day at one terminal and an entirely different time at another terminal not too far distant. Why are Butte's thunderstorms almost always earlier in the day than Great Falls? Where do thunderstorms form, and why not elsewhere?

The following is submitted not merely for information about mountain effects on cumulus development, but even more because it is an example of the type of reasoning involved in the solution of one of the problems arising from irregular ter-

rain. And, like it or not, irregular terrain is often a Montana pilot's biggest problem.

Cumulus development depends in part on convective currents (vertical flow of air caused by heating of the ground). The amount of sunshine received determines the strength of the convective currents. In order to compare flatland heating with the warming of mountain slopes, let us place transparent (and very large) chimneys of identical size over each type of terrain.



Although the two "chimneys" are the same size, the "bundle of sunshine" which is warming the mountain slope ("B") is much larger than the flatland "bundle" ("A") because the exposed surface area is greater, and the sun is more nearly directly overhead with respect to the sloping surface. Hence the vertical currents generated in the mountain chimney case will be much stronger than those in the flatland chimney because these currents are proportional to the amount of sunshine received.

It is easy to see, then, that the east slopes of the mountains will receive most of their sunshine in the morning, and the west slopes in the afternoon.

Another point must be considered now: the temperature of the ground when the maximum sunshine is re-

ceived. Other things being equal, warm ground will produce more convective currents than cold ground, even when both receive the same amount of sunshine.

When the east slopes are receiving their maximum sunshine, that is, in the morning hours, they are still cold from the previous night's cooling, and most of the incoming sunshine is used to warm up the ground. Still, very frequently cumulus clouds do develop over the east slopes during the morning. When the sun's angle changes, and the intensity of insolation drops off, these cumulus often dissipate, and the east slopes may be relatively clear during the early afternoon.

The case with south and west slopes of mountains is different. They receive their maximum sunshine during the afternoon, perhaps even late afternoon. Ever since sunrise or a little after they have been warming up, due to the general increase in temperature of the atmosphere as the day progresses. When the sun's rays hit these west slopes at the most direct angle, not much of their energy is wasted on warming up the ground, but most goes into the production of convective currents and cumulus cloudiness. Very often this energy is sufficient to set off thunderstorms.

These cumulonimbus clouds then move off in the prevailing air currents, and thunderstorms are observed at the various stations along their paths.

We should mention here that we are considering only air mass thunderstorms, and not the frontal type. Frontal thunderstorms are probably affected by this process too, but they are far more complicated.

Theoretically, then, we would conclude that along the east slopes we would see cumulus develop during the morning but dissipate by early afternoon. Then along the west slopes we would observe increasing cumulus during the afternoon and finally, thunderstorms. These would tend to move out over the east slopes and the flatlands beyond during the late afternoon and evening, carried on the prevailing southwesterly winds aloft.

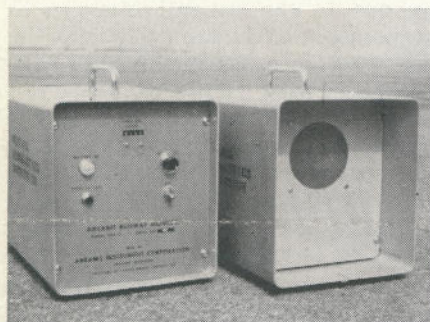
The observed early afternoon maximum at Butte and the later afternoon thunderstorm maximum at Great Falls bear out these conclusions. We even find a secondary

maximum of thunderstorm activity at Miles City at about 2300 M, where the thunderstorms may have traversed the distance from the mountains and still have survived some 6-8 hours after first development.

MAC Purchases New Airport Traffic Counter

The Airport Traffic Counter, recently purchased by the Montana Aeronautics Commission, is a recording device which is triggered by the noise of aircraft engines under full power and registers only take-offs, not landings. It can be adjusted to count either heavy multi-engine aircraft only or adjusted to count all aircraft. It is transistorized and has its own battery supply.

The monitor is placed at the edge of the runway and about 300 feet from the end.



Two views of the Airport Traffic Counter.

The Traffic Counter will be used first on all state airports to check traffic and will be the most valuable on airstrips that do not have full time attendants. These results should provide an accurate economic traffic count which will be an aid in justifying future airport projects.

After all state airports are monitored the Counter will be made available to all airport boards at their request. The monitors will be used approximately 30 days at each location.

FOR SALE: 1953 Cessna 180. Approx. 240 hrs. on Major. New '63 paint, Narco radio, Lear Radio, Carb. temp. gauge, primary blind flying group, new tires. Will sell or trade for Piper PA-18. Price: \$6,600. Contact: Don Cazier, Toston, Montana, or Phone: 266-3560.

FOR SALE: 140 Cessna, or trade on 170. Wing covered in 1963. Red and white and polished aluminum, low freq. radio, 670 SMOH, dual brakes, good glass and interior, 850 by 6 tires. Price: \$1,995. Dr. J. L. Cromwell, Box 420, Livingston, Montana.

HAVE YOU READ?

The Editorial by Mr. Frank Cooley in the April issue of Airport Services Management, published by Lake-wood Associates, Inc.

Mr. Cooley's remarks pertaining to airport operator's exclusive rights should be of interest of all aviation minded persons, particularly those in the aviation industry.

He makes timely statements in his "Time to Replan" (relative to airport improvement) and his "It Pays to Speak Up" (how true).

BACKSTEPPING TO THE FUTURE

Aviation is a backward industry.

You might have the urge to contradict that statement. After all, hasn't aviation gone in less than one lifetime from a 12-second flight knee-high above the dunes at Kitty Hawk, to the probes of limitless space?

Certainly, it has been a fast ride, and a spectacular one as well. In fact, it has been so fast and so spectacular that we have leapfrogged right over the great mass of people who can best accept it, best use it, and best benefit from it.

We have progressed from Jennies to Gemini at a dazzling pace too swift for the average mind to accept as a personal thing. By contrast, we can see how the automobile grew in stages that were easy for the public to take. First, there was the basic car. And the dirt roads. Then came better cars and better roads. Today, we have reached the stage of super-highways.

On the other hand, aviation didn't just stay in one stage long enough for that level to be developed, or accepted. As a result, we are now going back to the stage of building dirt roads. Aviation certainly has become a backward industry.

Why have only about two out of every ten persons ever flown? What's the reason we have 78 million automobiles, trucks and buses, but only 85,000 airplanes? Perhaps it is all tied up with simple need. Perhaps there hasn't been a real need for people to go where airplanes take them, or perhaps people want to go where airplanes won't take them. After all, it is the tremendous force of people's needs that makes us take action. Right now, the need is to take a step backward, to fill out the

gaps we have leapfrogged over in our enthusiasm.

The really big gap to be filled is in general aviation traffic. This is where aviation can really expand and go places. In these modern times, a community's business life depends on being reachable by air. The community itself may not always be awake to this. But the aviation needs of a community must be pushed by anyone with either civic, or a personal, vested interest in the development of his locale.

General aviation traffic has its own needs—more airports at more places. They don't have to be O'Hares or Kennedy-Internationals in size, either. Most general aviation aircraft can operate into and out of strips 2500 to 3,000 ft. This is a relatively low-cost project for fast transportation, especially when you consider these non-metropolitan areas are the type where nine out of ten new plants are locating today.

Certainly, general aviation will be serving these communities. As we get bigger and faster commercial airliners, the flights get longer. The modern jet is by nature a long range machine. But not everybody wants to go long range. And, many of those who do, must start from or proceed to a point some distance from the super-highway jet airport.

Our scheduled airlines serve about 700 points. The trunks serve about 300 and the local service lines serve about 400. Of these, 99 have only one flight a day. There are actually only about 250 airports which have anything close to convenient frequencies of schedules. Today 62 airports are served by scheduled jets. By 1968 this number is expected to grow to only 129.

Uncontrolled airports number 8,000 today—ranging from private farm strips to airports where 800 to 900 movements per day are not unusual. In a year's time general aviation will take off to go somewhere more than 19,308,000 times—and will carry some 30 million people.

By whatever measure you use, general aviation must be considered the dominant means of air transportation.

When you, your communities, or your government devise programs and plans for aviation, they must be for the total aviation community—

not favoring one group at the expense of another.

When there is an attempt to curtail activity at an airport, or to plow up the runway, don't let your future be plowed up with it. Be heard. Express your views. Educate those who need aviation without knowing it. Enlist your business associates, your friends, your neighbors. People today are ready for general aviation. And general aviation is ready for the people.

We must move backward. It's the only way we can all move forward.

By: Charles Spence

Reprinted with permission of Business Commercial Aviation Magazine (March Issue—1964)

A Reed Publication

A CASE IN POINT

by Kenneth D. Beyer
Commission Attorney

AIRCRAFT: Where Taxable—The city of Dallas attempted to tax as personal property an airplane owned by a resident of Dallas. The aircraft was hangared, maintained and serviced at another city. The District Court ruled against the City of Dallas, and upon appeal to the Texas Court of Civil Appeals, the decision was affirmed. The Texas law permitted cities to tax personal property "where situated." The decision of the Texas Court hinged upon the definition of "where situated."

The Texas Court held that a general rule applied to most personal property is that the personal property follows the owner and is situated for tax purposes where the owner resides; but that this rule is a fiction intended for convenience and where the personal property is tangible and has acquired an actual physical location of its own in a state or place other than where the owner resides, the general rule is inapplicable.

Under this exception the place where the property is permanently kept is the place of taxation. "Permanent" is held to mean "a more or less permanent location for the time being as contrasted with transient." For this reason the Texas Court held that since the airplane was tangible and was permanently kept at the other city, Dallas could not impose a personal property tax on the owner for the airplane even though the

owner was a Dallas resident. City of Dallas et al versus W. T. Overton et al, Texas Court of Civil Appeals.

AUTHOR'S NOTE: Section 84-201 Revised Codes of Montana 1947, provides as follows:

"All property in this state is subject to taxation, except as provided in the next section." (Exceptions not applicable to airplanes K.D.B.) Thus airplanes are properly the subject of personal property taxation by the counties of Montana.

Section 84-406 Revised Codes of Montana 1947, as amended 1963 provides in part: "(1) The assessor must, between the first Monday of March and the second Monday of July in each year, ascertain the names of all taxable inhabitants, and assess all property in his county subject to taxation, except as is required to be assessed by the state board of equalization, and must assess such property to the persons by whom it was owned or claimed, or in whose possession or control it was at twelve O'Clock Midnight of the first Monday of March next preceeding x x x"

Under Montana law, a result similar to the Texas decision could be anticipated. For example, a Helena resident (Lewis & Clark County) keeping his airplane at Townsend (Broadwater County) or vice versa would pay tax on the airplane where the airplane was kept.

AVAILABLE PUBLICATIONS & AIDS

**MONTANA AERONAUTICAL
CHART—\$1.00 Retail Price**

**MONTANA AIRPORT
DIRECTORIES—\$2.00 Retail Price**

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(for give-away distribution)
FREE**

**GENERAL AVIATION
OPERATORS**

**DENSITY ALTITUDE CHARTS
FREE**

**FLIGHT PLAN POSTERS
FREE**

With all the new brands of cigarettes coming out on the market, one company is working on one that has a tranquilizer in it. You can still get cancer, but you don't give a darn!

Nurse: When I told that election candidate he was the father of triplets, he automatically demanded a recount.

FOR SALE: Debonair B-33 1962—ADF Mark V, Single axis, auto pilot, always hangared, excellent condition. Contact: Bee Photo Service, P. O. Box 2531, Billings, Montana.



(Frank Bass of Bass Auction Company, known as the "Montana Flying Auctioneer" and Willy Rimby, General Aviation Operator in Lewistown are shown beside Bass's aircraft.) Bass and Rimby jointly announced that their auction to be held in Lewistown on June 14, is getting a good response and a number of aircraft listings have already been received.

'CANCELING OR CLOSING FLIGHT PLANS'

FAA Advisory Circular

1. **PURPOSE.** This FAA advisory circular outlines the need for canceling or closing flight plans promptly to avoid costly search and rescue operations.

2. **BACKGROUND.** Thousands of dollars in needless expense is borne by the Federal Government each year due to failure of some pilots to close or cancel their flight plans. Section 91.83(a) of the Federal Aviation Regulations requires that when a flight plan has been filed, the pilot in command, upon canceling or completing the flight under the flight plan, shall notify the nearest FAA Flight Service Station or ATC Facility. This section applies to IFR as well as VFR flights. However, practically all instances of noncompliance involve pilots on VFR flight plans.

3. **ACTION TAKEN WHEN A FLIGHT PLAN IS NOT CANCELED OR CLOSED.** When a pilot on VFR flight plan has not filed an arrival report or canceled his flight plan within one half hour (fifteen minutes if the aircraft is a jet) after his estimated time of arrival, the aircraft is considered overdue. This triggers the following actions:

A. An Information Request (INREQ) is sent by the destination station to all stations along the proposed flight route and to the departure station. Each of these stations checks with all airports within its Flight Plan area which can be contacted by local telephone or government circuits. In addition a preliminary alert is furnished to the appropriate Search and Rescue Coordination Center (SARCC).

B. If the replies to the INREQ are negative and the aircraft has not been located within one and one-half hours after the estimated time of arrival, an Alert Notice (ALNOT) is issued. The ALNOT initiates an extended communications search for information throughout the area within flight range of the Aircraft, not checked during the INREQ, and where it is reasonably possible the aircraft may have landed. All stations are authorized to use commercial communications facilities, as necessary, during the ALNOT search. This becomes costly when multiplied by the number of stations

involved in the search. In addition, the ALNOT is broadcast by each station, requesting search assistance from flights traversing the search area.

C. If the aircraft still has not been located one hour after the ALNOT is issued, responsibility for further search is transferred to the SARCC, who then conducts the actual air and surface searches using planes and pilots of military units and the Civil Air Patrol, as well as personnel of law enforcement agencies, etc. Each hour that the search continues entails costly outlay of men and equipment.

4. **SANCTION.** The complex procedures described above were developed to provide all possible assistance to pilots who are actually in difficulty. When they must be implemented due to failure of a pilot, through carelessness or inattention to close or cancel his flight plan as required, the many man-hours and large amount of money expended are wasted. Pilots should be reminded that violation of Section 91.83 of the Federal Aviation Regulations may result in the instigation of enforcement proceedings.

5. **RECOMMENDED ACTION.** All pilots should remember that they are solely responsible for closing or

canceling their flight plans. This requirement applies to stopovers enroute as well as at the destination. The procedure is not difficult since the Flight Service Station is as close as the aircraft radio or a telephone. Extra attention to this matter will better enable Search and Rescue procedures to be utilized for the purpose for which they were developed—to help the pilot in distress—and will also effect a considerable monetary saving to the government.

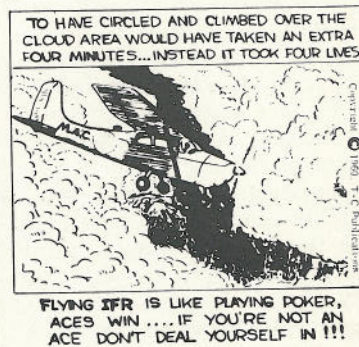
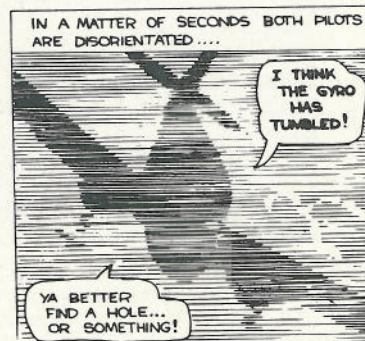


FEDERAL AVIATION AGENCY LISTING

Airport	May	June
Bozeman	14	11
(Gallatin Field)		
Culbertson		3
Glasgow	13	10
Glendive	7	4
Great Falls		
(International)		
Lewistown	27	
Missoula	21	18
(Missoula County)		
Sidney	6	
(Richland County)		

BE CHEERFUL

Don't worry if your job is small
And your rewards are few.
Remember that the mighty oak
Was once a nut like you.



CONGRATULATIONS!



CERTIFICATES ISSUED RECENTLY TO MONTANA FLYERS

Miller, Dave E.—Compton, California
—MEL on Private
Sundheim, Richard E.—Fairview—
Private
Pederson, Wallis E.—Wolf Point—
Commercial
Bjerke, Donald Lee—Flaxville—
Private
Burke, Patricia Ann—Anaconda—
Student
Stoner, Vernon R.—Outlook—Private
Brekken, Herb W.—Glasgow—
Student
Hedquist, Richard Lee—Ohio—
Student
Jensen, Robert Ole—Canada—Private
Langen, Leonard Harvey—Glasgow—
Instr. on Comm.
McTaggart, Donald M.—Canada—
Private
Pulliam, Gladys Marie—Billings—
Student
Branger, David Herman—Roscoe—
Student
Foos, Donald A.—Billings—Private
Levine, Charles A.—Billings—Instr.
Ground Instr.
Tindall, Herbert B.—Lewistown—
Student
Sumner, Wallace Dyle—Glasgow
AFB—Student
Acton, Sybil E.—Westby—Student
Gideon, Charles Russell—Seattle—
Instr. on Comm.
Batts, James S.—Glasgow—Mil.
Comp. MEL & Instr.
Ingwalson, Gloria—Crosby, North
Dakota—Student
Sammons, Herbert D., Jr.—Cut Bank
—Instr. on Private
Pitcher, Robert G.—Billings—
Student
Larson, Johannes E.—Plentywood—
Student
Thompson, Vernon Arthur—Winnett
—Student
Shauer, Leonard A.—Billings—
Private
Kaderavek, John Ed—Baker—
Student
Baecker, Ben A.—Billings—Student
Kotaki, John M.—Glasgow—Mel
Comm.

Rush, Bill Henry—Billings—Private
Nish, Robert M.—Judith Gap—
Private
Culver, Charles C.—Sheridan, Wyo.—
Instr. on Comm.
Wise, Bette Jean—Billings—Student
Albrecht, Thomas C.—Billings—
Student
Thompson, Thomas A.—Beach,
North Dakota—Student
Anderson, Donald R.—Billings—
Private
Luff, Albert—Milwaukee, Wis.—
Comm.
Sorley, John C.—Wolf Point—
Student
Bingham, Vincent P.—Richland—
Student
Etchart, Mitchel J.—Glasgow—MEL
on Comm.
Lewis, John Satterlee—Glendive—
Private
Anderson, Robert G.—Shelby—
Student
Brown, Dennis J.—Broadview—
Private
Wolff, Corey D.—Culbertson—
Student
Elsberry, Patrick G.—Conrad—
Student
Pangburn, Ralph F.—Missoula—
Student
Horstman, Gerald R.—Polson—
Student
Wolfer, Louis F.—Missoula—
Airframe mechanic
Brandoff, Todd Alan—Missoula—
Student
Redmond, Billy G.—Kalispell—
Student
Greenheck, Robert R.—Philipsburg—
Student
Tierney, Ray Urban—Great Falls—
Private
Verworm, Clifford G.—Helena—
Airframe Mechanic
Wix, Robert O.—Helena—Student
Lane, Ronald D.—Three Forks—
Student
Stephens, Clarence P.—Missoula—
Student
Duerden, Jay V.—Great Falls—
Comm. and Instr.
Fenger, Joel H.—Galata—Student
Stevenson, Mary L.—Missoula—Com.
Billman, Roger L.—Missoula—
Student
Timlick, Thomas L.—Kalispell—
Student
Weinert, James E.—Choteau—
Powerplant Mechanic
Schiff, Jerome L.—Polson—Private
Anderson, Lanny L.—West Point,
Nebr.—Private
Pozder, Pete—Great Falls—Private

Grazier, Don—Dixon—Private
Hassinger, Roy G.—Great Falls—
Student
Reed, Ronald J.—Calgary—Com. &
Instr.
Hamilton, Robert B.—Butte—Student
Rundell, Richard W.—Helena—Amel
added to Com. & Instr.
Hamby, Danny B.—Beaumont, Texas
—Private
Hunck, William H.—Cut Bank—
Student
Foster, Wallace E.—Whitefish—
Private
Bradley, Alan T.—Missoula—AMEL
added to private
Black, Wendilen Phillip—Great Falls
—Student
Roscoe, James P.—Billings—Student
Barnard, Stanley L.—Hinsdale—
Student
McKenzie, Wm. R.—Philipsburg—
Student
Kochi, Kenneth T.—Honolulu,
Hawaii—Student
Monteith, Claude W.—Missoula—
Private
Garland, Wayne W.—Chinook—
Student
Brandel, Robert E.—Havre—Private
King, Ona R.—Great Falls—Student
Fjield, Mel—Great Falls—Student
Davies, John S.—Great Falls—
Student
Higgins, Terry T.—Great Falls—
Commercial
Pearson, Gabriel B.—Conrad—
Student
Ferguson, Floyd L.—Great Falls—
Flight Instr.—airplanes
Gregg, Cecil S.—Great Falls—
Commercial
Aaberge, John K.—Ledger—Blue
Seal on Private
Ford, James A.—Missoula—Flight
Instr.—Airplanes
Crisp, Neal K.—Great Falls—Student
Peterson, Harold A.—Chinook—
Private
Watson, Howard D.—Havre—Private
Rice, John M.—Great Falls—Student
Graham, William G.—Missoula—
Student
Stevens, Thomas E.—Two Dot—
Student
Winterowd, Robert A.—Belgrade—
AMEL added to Com. & Instr.
Barr, Duane L.—Edgar—Private
Iverson, Ronald J.—Belgrade—
Private
Petaja, Richard A.—Bozeman—
Private
Sammons, Yvonne J.—Cut Bank—
Student

McClain, Wm. G.—Columbia Falls—
Student
Hall, Gary W.—Sidney—Student
Reed, Dixie L.—Great Falls—Student
Smith, Jerry L.—Great Falls—
Student
Naegele, Fred W.—Helena—AMEL
added to Private
Staat, Leo F.—Anaconda—Private
Liebig, Carl G.—Marion—Private
Nelson, Arnold E.—Havre—Private
French, Loice J.—Butte—Student
Webster, Kent A.—Billings—Student
Lunden, Elwin D.—Chinook—Private

Sudden thought: With all those
great medics on TV, how come
Chester still limps?

THINK ABOUT!

"Any pilot can work at avoiding
the things which cause trouble, and
as a result can have in his airplane
the safest form of rapid transporta-
tion. Maybe a better answer to 'How
safe are the fly-machines?' would be
that they are 100% safe. The ques-
tion is: 'How safe is the pilot who
runs the flying machine?' and that's
up to him."—Richard L. Collins.

"When the white man discovered
this country, the Indians were run-
ning it. There were no taxes. There
was no debt. The women did all the
work . . . And the white man thought
he could improve on a system like
that!"

1927, May 25 — Lt. James H. Doo-
little does an "outside loop" in an
airplant; first time this feat has ever
been accomplished.

Don't wait for your ship to come
in—row out to meet it.

1906, May 22 — Patent No. 821, 393
issued to Wright Brothers on a Fly-
ing Machine.

1918, May 11 — First American-
made airplane received by A.E.F.

1919, May 3 — The first Municipal
Airport in the U. S. is dedicated at
Atlantic City, N. J.

MEMBER

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

PURPOSE:—"To foster aviation as an industry, as a mode of transportation for persons and property and as an arm of the national defense; to join with the Federal Government and other groups in research, development, and advancement of aviation; to develop uniform aviation laws and regulations; and to otherwise encourage co-operation and mutual aid among the several states."

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